

Patient information from BMJ

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Bronchoscopy

A bronchoscopy is a common procedure that lets your doctor look inside your lungs. Here, we look at how and why it's done, the risks involved, and what to expect afterwards.

You can use our information to talk with your doctor about this procedure.

What is a bronchoscopy?

A bronchoscopy is a test to look for signs of problems inside your airways. The test can examine your lungs, throat, voice box (larynx), and windpipe (trachea).

During a bronchoscopy, a doctor passes a tube through your nose or mouth and into your lungs. He or she can then check for signs of:

- infections, such as tuberculosis and pneumonia
- inflammation (red, swollen patches)
- bleeding, and
- lung cancer.

If your doctor sees anything unusual during the test, he or she can take samples of tissue for testing. This is called a biopsy.

The tube used in a bronchoscopy is called a bronchoscope. It can be flexible or rigid. Most people have a flexible bronchoscopy because it's safer and more comfortable. This information covers flexible bronchoscopy.

A rigid bronchoscope is a straight, hollow, metal tube that's sometimes used if you're having treatment. For example, if you have a small object, such as a peanut, stuck in your airways, a rigid bronchoscope can be used to remove it.

Why might I need a bronchoscopy?

Most people who have a bronchoscopy have already had other tests, such as a chest x-ray or other type of scan. If these tests find anything that looks unusual, such as a shadow or a lump in your lungs, a bronchoscopy can be a useful next step.

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The main reasons for a bronchoscopy are if you have symptoms that could be caused by an infection or possibly by lung cancer. For example, your doctor might suggest a bronchoscopy if:

- you've been coughing up blood
- you have breathing problems that have been going on for a long time, or
- you've been exposed to asbestos in the past and have symptoms of asbestos exposure, such as chest pain, trouble breathing, or unexplained symptoms.

Your doctor might also suggest this test if you have had any of the following symptoms that either can't be explained or has lasted more than three weeks:

- chest or shoulder pain
- trouble breathing, a hoarse voice, or abnormal breath sounds
- a cough
- weight loss
- a change in shape of the ends of your fingers (called clubbing)
- swelling in the glands in your neck or above the collar bone.

Doctors also sometimes suggest a bronchoscopy for people with asthma whose symptoms are not improving with medication.

What will happen?

Before the test

You have a bronchoscopy in hospital, but you can usually go home the same day. It's not an operation and you won't have a scar or stitches afterwards.

You won't be able to eat or drink anything for a few hours before the procedure. Your hospital will tell you exactly how long before the procedure you should stop.

You might be given medicine to reduce the amount of saliva you produce. This will make your throat feel dry. But it can make the test easier and quicker.

If you have asthma, you might be given medicine to open up your airways. This will help you breathe during the test.

You might be given a drug called a sedative to relax you, especially if you feel anxious. This is usually given by an injection in the back of your hand. You'll feel a bit sleepy after the sedative, but it's not a general anaesthetic so you'll still be aware of what's going on around you.

You'll also be given a local anaesthetic to numb the back of your nose and throat. This may be sprayed into the back of your throat, or you might be given a lozenge to suck, or a mask to breathe through.

The anaesthetic might taste unpleasant, but it should stop you gagging during the test.

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During the bronchoscopy

During the procedure:

- you lie flat on your back with a pillow under your head, or sit or lean back in a chair
- your doctor puts a long, flexible tube (the bronchoscope) through your nose, into your windpipe and down to your lungs. If the passages in your nose are too narrow for the tube, the test might be done through your mouth instead.

The tube has a light and a camera on the end. The camera sends pictures of your airways back up the bronchoscope to a screen. The doctor watches the screen or looks through an eyepiece at the top of the bronchoscope while gently feeding it into your lungs

- your doctor checks your lungs for sore patches, damage, inflammation (swelling), and lumps. The doctor will look at both sides of your lungs, and go down the airways as far as possible
- you shouldn't try to talk during the procedure. The doctor or nurse will show you how to signal if you are in any pain
- you should be able to breathe normally during a bronchoscopy. The doctor will check that you're getting enough oxygen using a small device attached to one of your fingers. This measures the oxygen in your blood..

If it falls too low, you'll be given extra oxygen to breathe. This goes through a soft tube in the nostril that isn't being used for the bronchoscope.

If your doctor thinks that there might be cancer cells in your lungs, he or she might inject some fluid into your lungs that helps to show up the cells.

This is called fluoroscopy. It helps doctors see the narrow parts of your lungs that the bronchoscope can't reach. Your doctor might also use a very thin bronchoscope, which is threaded through the thicker one, to reach these smaller airways.

Bronchoscopy is a useful test, but it can miss some small cancers. This is usually because the tumour is very deep inside the lungs and the bronchoscope is too big to get inside the small airways.

So your doctor might also use the bronchoscope to take samples of tissue from your airways to check later under a microscope. This increases the chance of the test finding any cancer cells that might be in your lungs.

Having a bronchoscopy can be uncomfortable. You might feel the tube moving around inside your chest, and you might gag and cough. Taking deep, regular breaths can stop you coughing. If this doesn't help, you might be given some medicine.

What are the risks?

Like any procedure, bronchoscopy can cause problems. These are usually minor, and they get better quickly. Serious problems are rare. Your doctor should discuss the risks of the procedure before you have it.

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Complications of bronchoscopy include:

- having a sore throat or losing your voice for a short time
- feeling nauseous or vomiting. This is probably caused by the anaesthetic
- a drop in your blood pressure for a short time. Again, this is probably caused by the anaesthetic
- a raised temperature (fever). This is fairly common after bronchoscopy, but it's rarely serious. Some people need to have antibiotics, but this is usually because they already had an infection
- an irregular heartbeat. This happens if your blood oxygen falls too low, but it's rarely serious. Your blood oxygen will be monitored so you can be given extra oxygen if you need it
- bleeding in the lungs. This can happen when tissue is taken for testing. It's rarely serious and can usually be stopped easily
- trapped air, called a pneumothorax. This is when air gets trapped in the space between your lungs and your chest wall. It's more likely to happen if you have tissue samples taken from your lungs. It is treated by putting a needle or tube into your chest to let the air out. Rarely, it can happen after you leave hospital. If you have continuous, sharp chest pain and difficulty breathing, you might need to return to hospital for treatment
- it's extremely rare, but some people die soon after a bronchoscopy. This is usually because they were very ill to begin with.

What can I expect afterwards?

Most people can go home about two hours after the test. But you should wait until you feel comfortable and can swallow normally.

You might have an x-ray an hour or so after your bronchoscopy to make sure air isn't trapped in the space between your lungs and your chest wall (pneumothorax). If you have trapped air, you might need treatment to release it.

If you smoke and you have had some tissue samples taken from your airways, you shouldn't smoke for a while afterwards. And you should try not to cough or clear your throat. This will help the area heal more quickly. Of course, it's best to stop smoking completely if you can.

If you had a sedative, you might feel drowsy and you might not remember much about the test. You won't be able to drive for about 24 hours. Make sure someone is with you when you travel home.

The doctor might tell you what the bronchoscopy showed before you go home. But if they took any samples of tissue or cells, you won't get these results right away.

You should contact the hospital right away if you have any of these symptoms:

- fever
- sharp chest pain

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- difficulty breathing
- coughing up a lot of blood (it's normal to cough up a little).

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